

In re: Carbonell et al.  
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### Remarks

This Amendment is responsive to the Action mailed October 11, 2001. Claims 15-22 are currently pending. Claims 23-32, drawn to the non-elected invention, have been canceled without prejudice to the filing of a divisional application thereon. Applicants have added new Claims 33-51. Applicants traverse the outstanding rejections for the reasons provided below.

#### **I. § 112, First Paragraph, Rejection**

The Action rejects Claims 15-22 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Action asserts that there is no support in the specification for "between about 80 and 99.9 percent carbon dioxide." Applicants believe that this recitation is supported by the specification. However, in order to expedite prosecution, Applicants have amended Claim 15 to recite a "composition consisting essentially of carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether". Applicants respectfully request that this rejection be withdrawn.

#### **II. § 102(b) Rejections**

Claims 15-18 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,186,974 to Gribbin et al. The Action states that:

Gribbin teaches a coating composition comprising a film-forming agent, such as an aqueous solution of bifunctional fluoropolyethers. The bifunctional moieties include, diols, dicarboxylic acids and diesters. Gribbin teaches that from 0.5 to 20 percent of the film-forming agent is sprayed together with a carrier gas stream. Such gas streams include carbon dioxide.

Accordingly, Gribbin teaching all the material limitations of the claims, anticipates the claims.

(the Action, page 3, citations omitted). Applicants respectfully traverse this rejection.

Claim 15 recites a composition useful for protecting civil infrastructure consisting essentially of carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether, said fluoropolyether having at least one anchoring group covalently joined thereto. At page 4, line

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33 to page 5, line 1, the specification states that "compositions used to carry out the present invention may consist essentially of the fluorocarbon and the carbon dioxide, with only minor amounts of cosolvents, surfactants or the like included therein."

In contrast, Gribbin states, at column 3, lines 44 through 46, that "[f]urther examples [of film-forming polymeric agents] are aqueous solutions or emulsions of bifunctional fluoropolyethers, in particular bifunctional derivatives, such as diols, dicarboxylic acids and diesters." At column 4, lines 4-10, Gribbin proposes various carrier gases including carbon dioxide that may be used to form an aerosol. Thus, Gribbin proposes an aerosol composition of bifunctional fluoropolyethers in water with a carbon dioxide carrier gas. Applicants respectfully submit that the aerosol compositions of Gribbin do not anticipate Claim 15 because the compositions of Gribbin do not "consist essentially of carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether" as recited in Claim 15. Gribbin requires an aqueous solution of the fluoropolyether. Thus, in the Gribbin compositions, water is the solvent, not a minor amount of a co-solvent. For at least the foregoing reasons, Applicants respectfully submit that Claims 15-18 and 20 are not anticipated by Gribbin and request that this rejection be withdrawn.

### III. § 103(a) Rejections

Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gribbin in view of U.S. Patent No. 5,009,367 to Nielsen. The Action admits that Gribbin fails to teach that carbon dioxide is a liquid or a supercritical fluid. However, the Action states that Nielsen teaches combining supercritical fluids with a coating composition and spraying this composition and asserts that it would be obvious to substitute the supercritical fluid CO<sub>2</sub> of Nielsen for the gaseous CO<sub>2</sub> of Gribbin. While dependent Claims 21 and 22 are patentable by virtue of the patentability of independent Claim 15, these claims are separately patentable over Gribbin in view of Nielsen for the following reasons.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. M.P.E.P. § 2143.03. Claim 21 recites a composition consisting essentially of liquid carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether. In contrast, Gribbin proposes the use of carbon dioxide as a carrier gas useful for providing an aerosol of an aqueous solution of a bifunctional fluoropolyether and

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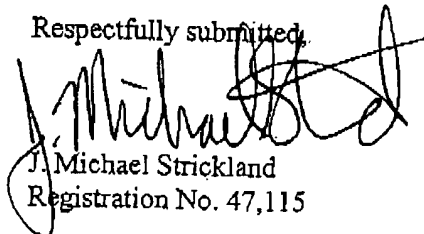
Nielsen proposes a process that utilizes supercritical carbon dioxide as a carrier for a typical, conventional coating formulation or coating composition. Neither Gribbin nor Nielsen, either alone or in combination, suggests a composition consisting essentially of liquid carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether as recited in Claim 21. Thus, even if Gribbin and Nielsen were combined, all of the claim recitations in Claim 21 would not be provided by the cited references.

Regarding Claim 22, neither Gribbin nor Nielsen, either alone or in combination, suggests a composition consisting essentially of supercritical carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether as recited in Claim 22. As noted above, Nielsen proposes a supercritical fluid as a carrier for a typical, conventional coating composition. Thus, even if Gribbin and Nielsen were combined, they would only provide an aerosol composition of a supercritical fluid carrier and an aqueous solution of a bifunctional polyether. Gribbin and Nielsen if combined would not provide a composition consisting essentially of supercritical carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether as recited in Claim 22. For at least the foregoing reasons, Applicants respectfully submit that Claims 21 and 22 are separately patentable over Gribbin in view of Nielsen.

#### IV. Conclusion

The concerns of the Action addressed in full, Applicants respectfully request that all rejections be withdrawn and that a Notice of Allowance be issued forthwith. Any questions that the Examiner may have can be directed to the undersigned, who may be reached at (919) 854-1400.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box Amendment (No Fee), Commissioner for Patents, Washington, DC 20231, on January 8, 2002.

Monica L. Croom

Monica L. Croom

Date of Signature: January 8, 2002

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Title:**

Please amend the title in all occurrences as follows:

--[METHOD AND] COMPOSITIONS FOR PROTECTING CIVIL INFRASTRUCTURE--

**In the Claims:**

Please amend Claim 15 as follows:

15. (Twice Amended) A composition useful for protecting civil infrastructure, said composition consisting essentially of [between about 80 and 99.9 percent] carbon dioxide and between about 0.1 and 20 percent of a fluoropolyether, said fluoropolyether having at least one anchoring group covalently joined thereto.

\* \* \* END \* \* \*